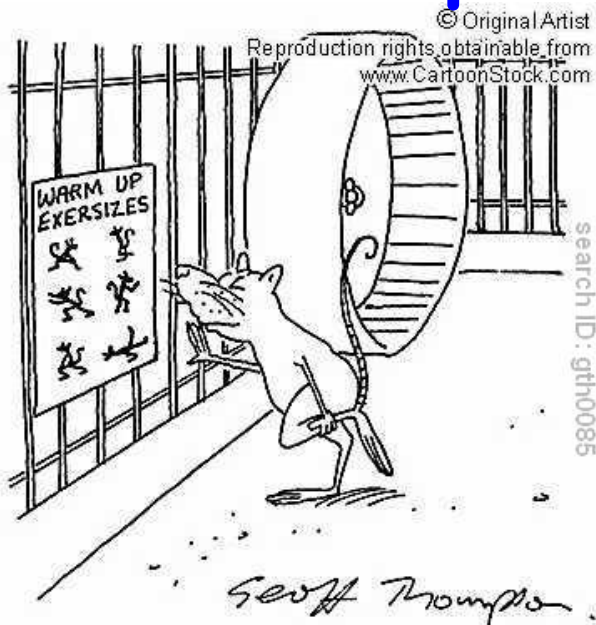


Warm up!!!^{1.}



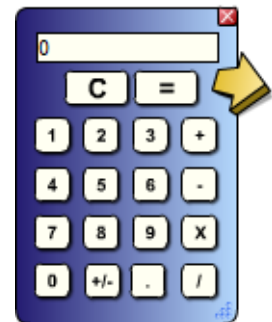
Many big screen TV's have an aspect ratio of 16:9. This means that for every 16 inches of width, the TV will be 9 inches high. Calculate the height of a TV that is 27 inches wide.

- ^{2.} The cost of a pack of 4 hamburgers is \$4.89, the cost of a pack of 12 buns is \$1.29, and the cost of 24 slices of cheese is \$3.69. What is the cost of 5 cheeseburgers? (1 hamburger, 1 slice of cheese, and 1 bun)



1.

Many big screen TV's have an aspect ratio of 16:9. This means that for every 16 inches of width, the TV will be 9 inches high. Calculate the height of a TV that is 27 inches wide.



$$\frac{x}{27} = \frac{9}{16}$$
$$x = \frac{(9)(27)}{16}$$
$$= 15.19$$

The TV is 15.19 in high.



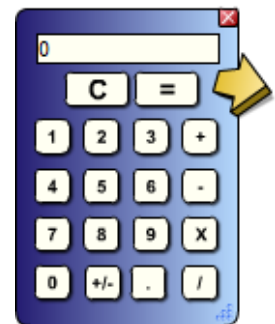
Many big screen TV's have an aspect ratio of 16:9. This means that for every 16 inches of width, the TV will be 9 inches high. Calculate the height of a TV that is 27 inches wide.

$$\frac{\text{width}}{\text{height}} = \frac{16}{9} = \frac{27}{x}$$

$$\frac{16}{9} = \frac{27}{x}$$

$$16x = 243$$

$$x = 15.1875$$



The height of the TV would be 15.2 inches.



2. The cost of a pack of 4 hamburgers is \$4.89, the cost of a pack of 12 buns is \$1.29, and the cost of 24 slices of cheese is \$3.69. What is the cost of 5 cheeseburgers?
(1 hamburger, 1 slice of cheese, and 1 bun)

$$\text{Hamb } \frac{4.89}{4} = \$1.22$$

$$\text{Bun } \frac{1.29}{12} = \$0.11$$

$$\text{Cheese } \frac{3.69}{24} = \$0.15$$

$$\begin{aligned} \text{hamburgers} &= 1.22 + 0.11 + 0.15 \\ &= \$1.48 \end{aligned}$$

$$\begin{aligned} 5 \text{ burgers} &= 1.48 \times 5 \\ &= \$7.40 \end{aligned}$$



2.

The cost of a pack of 4 hamburgers is \$4.89, the cost of a pack of 12 buns is \$1.29, and the cost of 24 slices of cheese is \$3.69. What is the cost of 5 cheeseburgers?

(1 hamburger, 1 slice of cheese, and 1 bun)

Hamburger	Bun	Cheese	One Burger:	\$1.22
<u>4.89</u>	<u>1.29</u>	<u>3.69</u>		0.11
4	12	24		<u>0.15</u>
1.2225	0.1075	0.15375		\$1.48
\$1.22 _{/h}	\$0.11 _{/b}	\$0.15 _{/c}	Five Burgers:	
				\$1.48 × 5 = \$7.40

Five cheeseburgers would cost \$7.40.

MATH ON THE JOB

Maurice Meagher is the owner of Case Handyman and Remodeling, a business that performs renovation, remodeling, building, and designing services in Halifax, Nova Scotia. Maurice grew up in Port Hawkesbury, NS, where he went to high school at the Strait Area Education Recreation Center.

Maurice's job includes drawing up yearly and monthly budgets. He also calculates averages of past sales to help him forecast changes in staffing and cash flow. Another important part of Maurice's job is estimating how much it will cost to complete different building, renovation, or remodeling projects.

Maurice is estimating the cost of remodeling the floors of a home. He calculates that the floor space measures 1500 square feet. He determines that the cost of the entire job, including labour and materials such as ceramic tile and grout, will be \$27,000.00. What is the cost per square foot for the remodeling?



Maurice's job involves estimating the cost of building decks and sunrooms.

$$\frac{27000}{1500} = \$18/\text{ft}^2$$

SOLUTION

What is the cost per square foot for the job?

$$\frac{\$27\,000.00}{1500} = \$18.00/\text{sq. ft.}$$

£ competitors
\$ cost
\$ age
\$ demands



Setting a Price



SUPPLY/DEMAND:

- demand rises...cost increases.
- demand falls (or over supplied)...cost decreases.

Markup

The difference between the amount a dealer sells a product for and the amount he or she paid for it.

Percent

Percent means "out of 100"; a percentage is a ratio in which the denominator is 100.

The markup is usually a percent.

What's in a price???

- \$39.99 seems less expensive than \$40.
- price / 100 g rather than price / kg.
- weekly payments rather than monthly.

EX: The markup of the T-shirts is 25%. If the cost of making a T-shirt is \$8, determine the selling price...

There are
two ways
to calculate the
selling price.

OR

1. Cost x Percent		Cost x Percent
$\$8.00 \times 0.25$		$\$8.00 \times 1.25$
$\$2.00$		$\$10.00$
2. Cost + Markup		
$\$8.00 + \2.00		
$\$10.00$		

Includes 100% of the original price and the 25% mark



- Time of Year
- Condition
- Rarity
(Demand)

What else
affects
selling price?





Goods and Services Tax

	GST	PST	HST
NS			15%
NB			13%
NFLD			13%
PEI	5%	10%	



Provincial Sales Tax



Harmonized Sales Tax

Retail Buying

<http://www.cra-arc.gc.ca/tx/bsnss/tpcs/gst-tps/rts-eng.html>

Sales Tax - Provincial (PST) / Goods & Services (GST) GST is now 5 % (effective Jan. 1/2008)

The screenshot shows the Canada Revenue Agency website. At the top, there is a navigation bar with links for Français, Home, Contact Us, Help, Search, and canada.gc.ca. Below this is a sidebar with a 'Go to' menu containing links for Forms and Publications, Online services, A to Z index, Site map, Information for Individuals, Business, and Other groups, and a Search CRA box. The main content area is titled 'GST/HST rates' and contains the following text:

The GST is a tax that applies on most supplies of goods and services made in Canada. The GST also applies to supplies of real property (for example, land, buildings and interests in such property) and intangible property such as trademarks, rights to use a patent, and digitized products downloaded from the Internet and paid for individually.

The participating provinces (Nova Scotia, New Brunswick, and Newfoundland and Labrador) harmonized their provincial sales tax with the GST to implement the HST. Generally, the HST applies to the same base of goods and services as the GST. As of July 1, 2010, Ontario harmonized its retail sales tax with the GST to implement the HST and British Columbia harmonized its provincial sales tax with the GST to implement the HST. Also, as of July 1, 2010, Nova Scotia increased its HST rate from 13% to 15%. For information see [Nova Scotia HST rate increase](#).

In Quebec, Revenu Québec administers the GST/HST. If your business is located in Quebec, visit the [Revenu Québec Web site](#).

The GST/HST rates are as follows:

	On or after July 1, 2010	On or after January 1, 2008, and before July 1, 2010	Before January 1, 2008, and after June 30, 2006	On or after April 1, 1997, and before July 1, 2006	Before April 1, 1997
Alberta	5%	5%	6%	7%	7%
British Columbia	12%	5%	6%	7%	7%
Manitoba	5%	5%	6%	7%	7%
New Brunswick	13%	13%	14%	15%	7%
Newfoundland and Labrador	13%	13%	14%	15%	7%
Northwest Territories	5%	5%	6%	7%	7%
Nova Scotia	15%*	13%	14%	15%	7%
Nunavut	5%	5%	6%	7%	7%
Ontario	13%	5%	6%	7%	7%
Prince Edward Island	5%	5%	6%	7%	7%
Saskatchewan	5%	5%	6%	7%	7%
Yukon	5%	5%	6%	7%	7%

The HST breakdown:

- The HST rate of 12% includes the 5% federal part and 7% provincial part.
- The HST rate of 13% includes the 5% federal part and 8% provincial part.
- The HST rate of 15%* includes the 5% federal part and 10% provincial part. (As of July 1, 2010)
- The HST rate of 14% includes the 6% federal part and 8% provincial part.
- The HST rate of 15% includes the 7% federal part and 8% provincial part.

Finding the tax...

$$\text{Amount of Tax} = \text{Regular Price} \times \text{Tax (as a decimal)}$$

$$\text{Total Cost} = \text{Regular Price} + \text{Tax}$$

Find total cost...

Shortcut to calculating tax?

Find the total cost (including HST) for each of the following...

CANADIAN TIRE

1/2 price 239.79 Serengeti 21-speed bike
 21-speed full suspension frame, Shimano 82 for adults, Shimano front and rear derailleurs in stock. Reg. 479.98

1/2 price 97.96 Biscuits
 Biscuits and other snacks. Reg. 195.92

1/2 price 74.88 Beach folding chair
 Beach folding chair. Reg. 149.76

1/2 price 59.88 Motorcycle/ATV jack
 100 lb capacity. For motorcycles, ATVs, riding mowers, etc. Reg. 119.76

save 70% 48.88 100-piece socket set
 100-piece socket set, 1/2", 3/4", 1" and 1 1/4" sizes. Includes wrenches, bits and sockets. Reg. 179.98

1/2 price 39.96 600W food processor
 600W capacity. 10-cup capacity. Removable dishwasher safe and chopping blades included. Dishwasher-safe parts in stock. Reg. 79.92

$$239.79 \times 1.13 = 270.9627$$

$$39.96 \times 1.13 = 45.1548$$

$$48.88 \times 1.13 = 55.2344$$

NAVIGATOR PHOTOS EXTERIOR INTERIOR PERFORMANCE SAFETY & SECURITY FEATURES & SPECS

Make a Lasting Impression
 Starting at \$48,745

EXPLORE NAVIGATOR
 REDESIGNED INTERIOR

$$48745 \times 1.13 = 55081.85$$

$$48745 \times .13 = 6336.85$$

\$26 554
(NB, NFLD, NS)

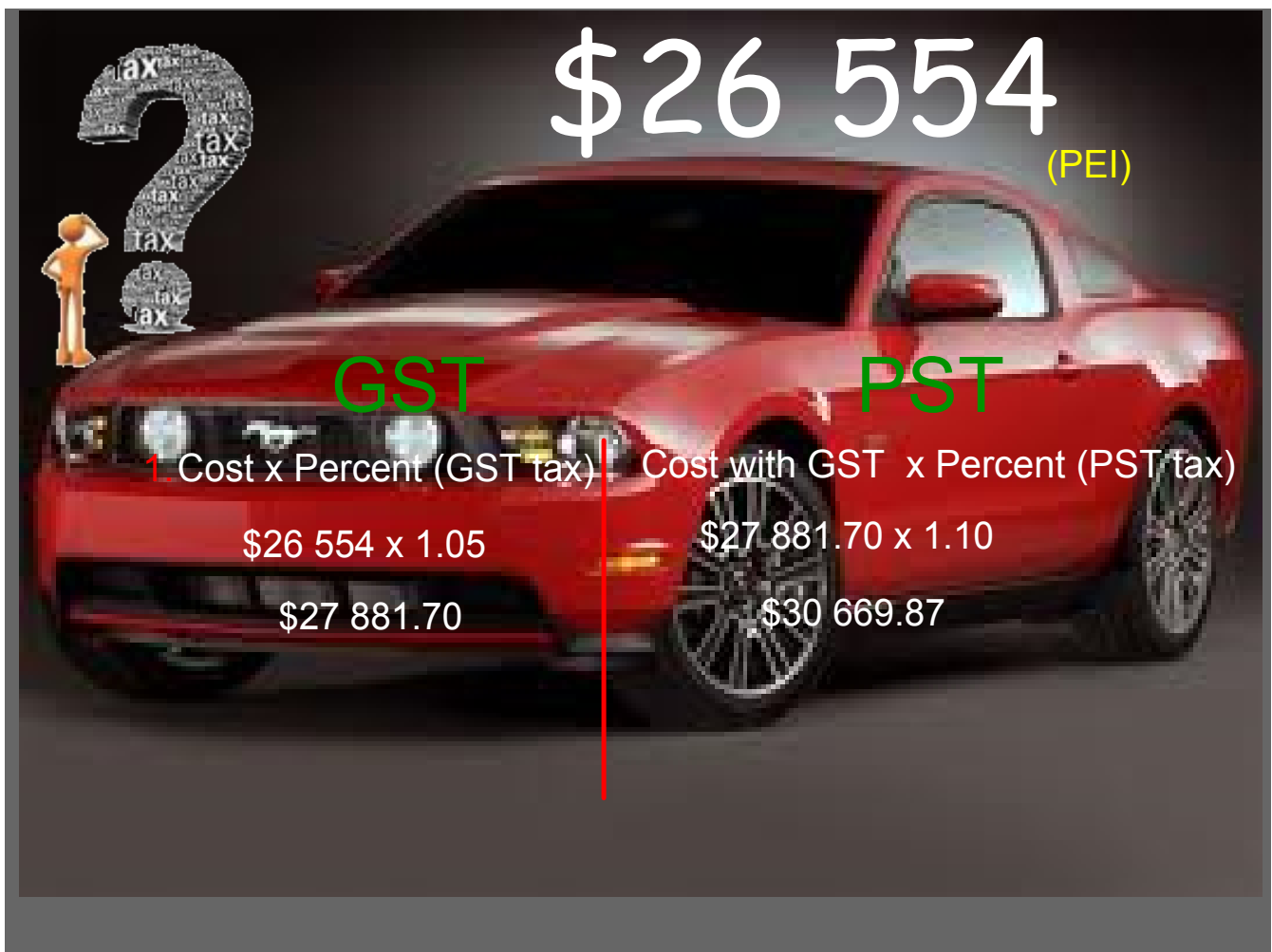
1. Cost x Percent (tax)
 $\$26\,554 \times 0.13$
 $\$3452.02$

2. Cost + Markup
 $\$26\,554 + \3452.02
 $\$30\,006.02$

OR

Cost x Percent
 $\$26\,554 \times 1.13$
 $\$30\,006.02$

Includes 100% of the original price and the 25% mark up.



The image features a red sports car as a background. In the top left, there is a large question mark composed of the word 'tax' repeated many times, with a small orange figure standing next to it. The price '\$26 554 (PEI)' is displayed in large white text at the top right. Below the car, two columns of calculations are shown, separated by a vertical red line. The left column is headed 'GST' and the right column is headed 'PST'. The calculations show the process of adding GST and then PST to the base price.

GST	PST
1. Cost x Percent (GST tax)	Cost with GST x Percent (PST tax)
$\$26\,554 \times 1.05$	$\$27\,881.70 \times 1.10$
$\$27\,881.70$	$\$30\,669.87$



Arlene purchases fabric at a wholesale price for her custom sewing business in Cavendish, PEI.

She pays \$46.00/m.

She charges a markup of 20% on the fabric.

What will Arlene charge her clients per metre?



$$46 \times 1.20 = \$55.20/m$$



Arlene purchases fabric at a wholesale price for her custom sewing business in Cavendish, PEI.

She pays \$46.00/m.

She charges a markup of 20% on the fabric.

What will Arlene charge her clients per metre?

OR

1. Cost x Percent

$$\$46.00 \times 0.20$$

$$\$9.20$$

2. Cost + Markup

$$\$46.00 + \$9.20$$

$$\$55.20$$

Cost x Percent

$$\$46.00 \times 1.20$$

$$\$55.20$$

CONCERT PROMOTER

Imagine that you are a concert promoter. You are responsible for promoting concerts for up-and-coming bands and selling tickets to these concerts. For your next concert, you have set a ticket price based on the amount it will cost you to put on the concert, plus a 30% profit.

Consider the following situations.

1. If ticket sales are high and you realize you are going to sell out quickly, what could you do?
2. If ticket sales are low and you realize you will not be able to sell them all, what could you do?
3. Under what circumstances might you consider selling tickets for a price that would not cover the cost of the concert?

SAMPLE SOLUTIONS

1. Raise the prices, see if you can add another show, limit the number of tickets per person.
2. Lower the prices, increase the promotions/ads, give tickets away as radio prizes.
3. There are not many circumstances, since your goal is to at least break even. However, in some dire circumstances, it may be better to make some money rather than no money.



The Dardanelles, a band from Newfoundland, play at Nova Scotia's Lunenburg Folk Harbour Festival.

DISCUSS THE IDEAS**SEASONS AND HOLIDAYS**

The demand for many goods and services varies with the seasons and, as a result, so does the price of these goods and services. Consider summer and winter in different parts of the country. Can you name some goods or services that have higher prices in summer or winter?

Demand for many items also increases around holidays, which may cause an increase in the price. In small groups, discuss the following questions.

1. Consider the price of roses. What time of year are roses most expensive? Why?
2. Consider the price of a litre of gasoline. What time of year is gasoline most expensive? Why?
3. Name two or three other goods or services that have a higher price at certain times. Why do their prices fluctuate?
4. Name two or three products that command higher prices because they are rare or unique.
5. Find two examples where prices are advertised in a way that makes an item seem less expensive. Share your examples with your classmates.



In many cultures, flowers are a common gift for special occasions.

SAMPLE SOLUTIONS

1. Mother's Day (May), high school graduation (June), and weddings (summer) tend to be a high volume time. Students may think of other events that may cause a demand for roses (for example, Valentine's Day).
2. Summer: road trips tend to increase. In light of rising gasoline costs, encourage students to talk about trade and economic fluctuations.
3. The price of toys at Christmas: students will be able to suggest many examples.
4. Certain jewellery pieces, such as blue diamonds or real fresh-water pearls, expensive watches like Patek Philippe or Rolex, rare art works, first edition books, certain foods such as caviar.
5. Answers will vary, but students may notice that prices are often set just below a psychological turning point, such as \$39.95 instead of \$40.00. Other examples in which goods and services are advertised to seem less expensive than they are include plane fares that do not include taxes and fuel surcharges, one-way trips instead of round trips, hotel prices quoted by one night prices when a minimum stay is three nights. Sometimes manufacturers advertise an old price but have reduced the size of the package. Selling foods using the 100-gram price rather than the price per pound or kilogram also creates the impression that items are less expensive than they are.



HW: Page 32
Questions 1 - 8

1.3 Build Your Skills Detailed Solutions.pdf



1.3 Build Your Skills Detailed Solutions.pdf